

L1 STU - HSLT201 - Sortie terrain Sismologie

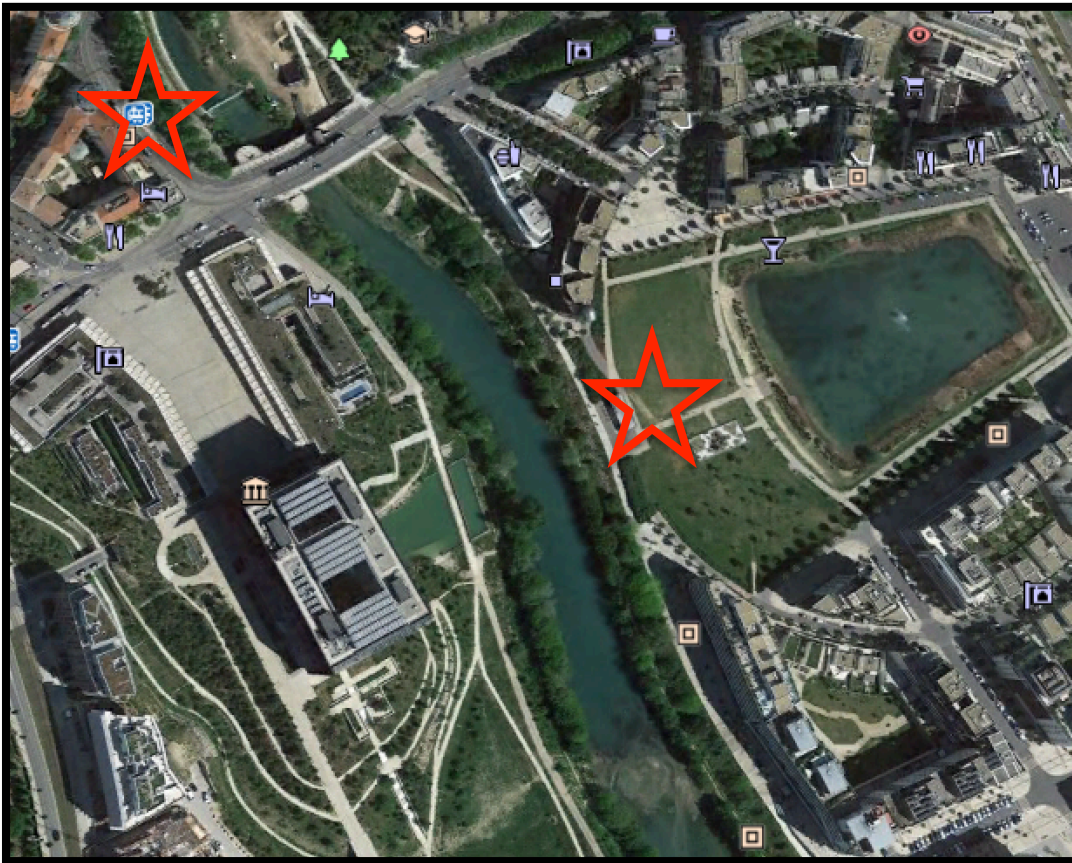
Objectifs

- Compréhension des différentes méthodes d'investigation
- Prise en main d'équipement géophysique – sismique
- Mise en place d'une étude de site : méthodes, pratiques

Equipement et manips

- Mesures du bruit sismique ambiant pour estimer la structure du sous-sol (épaisseur des couches, vitesses et densité)
 - Equipement : sismomètre 3 composantes « Tromino »
- Mesures de sismique active pour estimer l'épaisseur et la vitesse des une / deux premières couches sédimentaires
 - Equipement : flute sismique (24 géophones verticaux), acquisition, masse
- Planification et cartographie des mesures
 - Equipement : cartes et GPS

Localisation : Montpellier, Parc Jacques Cœur, Hôtel de ville de Montpellier, rdv Tram Hôtel de Ville – Moulares



Short guide for Soilspy Rosina – Active seismic

- Install the 24 geophones (*WARNING: Deploy and connect the streamer to the computer:*

setup à calibration. Disconnect the streamer)

- Connect the geophones to the streamer: the connectors are clearly numbered from one to 24. Be careful of red/black colors
- Connect the streamer to the PC with the HUB (connectors noted “isolated”) to a USB port.
- Launch the Solspy Rosina software
- Click the **LINK** button (if problem: setup // option // virtual com, try different number of port - port n° 10 or 11 seem ok). **LINKED** indicates that the communication work
 - *Window with multiple rows: geophone number, resolution, amplitude, X-Y distances. All parameters can be modified with « command » // Set trigger: recording time, geophone number 1, mode of acquisition // Set Gain: auto, 1/t, 1/sqrt(t),... // Set Geometry: X-Y distances,... Click to validate.*
- Command // Set trigger to fix the position of source (a “T” is indicated near the selected geophone), the delay and the recording time
- Command // Set Gain
- Command // Set Geometry
- Choose the acquisition frequency (512 Hz is ok) : in the task bar next to LINKED.
Different buttons: C = continuous monitoring mode, S=stacking recording mode
- Create a folder to save the data then Setup // General // Change the folder By default: C:/program files(x86)/Micromed/SoilspyRosina/Files/Site Default *Warning: “Files” is locked if you are not the user who installed the software. You can’t access to the data.*
CHANGE THE FOLDER FIRST!
- Select continuous monitoring to verify all the geophones (walking along the profile) and test parameters like the gain
- Fix the threshold (1 mv seems ok)
- Select the mode STACK clicking on the “S” button // trigger // save
- Activate the source: activate the source, the number of stack increases
- Stop acquisition: the different traces are automatically saved in the current directory.
Button “A” = Average mode: you have to open the acquisition file then you can select/deselect traces contributing to the final averaged signal. The result of the selection is on the right side. The average trace is automatically saved when you stop. Button “P”= Picking mode: select the trace (right panel) and right click to pick the first arrival. File // save picking

Short guide for Tromino

Paramètres:

- Fréquence d'acquisition: 512 Hz
- Acquisition Length: 10 min
- Program: 1
 - Channels: HIGH
 - GPS Data: No
 - START: Manual

- click the (LE ▼) key (GO). You will be redirected to the INITIAL MENU window.
- click the (RI ●) key. The ACQUISITION window will appear.

TROMINO

BATTERY

DATE dd mmm yy

TIME hh : mm : ss

GO SET UP EXIT

ACQUISITION

SWITCH OFF

DATE AND TIME

SITE NAME

PARTITION IN USE ## / ##

DISPLAY LIGHT ON/OFF

VIEW CARD DATA

RADIO SET. GPS SHOW

▼ ▲ ◀ ●

INITIAL MENU

ACQUIRE

AMPLIFIER TEST

SELECT PROGRAM

MODE

SAMPLING ### Hz

SITE ## name

ACQ. LENGTH ## : ## : ##

▼ ▲ ◀ ●

6) You are now ready to acquire

- In the panel below, move down with the (LE ▼) key until the ACQUIRE item is selected and click the (RI ●) button.

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INITIAL MENU

▶ ACQUIRE

AMPLIFIER TEST

SELECT PROGRAM selected acquisition program

MODE

SAMPLING ### Hz

SITE ## name

ACQ. LENGTH ## : ## : ##

▼ ▲ ◀ ●

SYSTEM IS READY TO START THE ACQUISITION

EXIT START

- After a few seconds the signals will be displayed on the screen.
- If the selected program is PROGRAM 2 or PROGRAM 4, then traces will automatically be saved on the current partition as soon as the GPS signal is collected. If satellites cannot be tracked, traces will be automatically recorded 5 minutes after startup and after the set delay (page 59).
- If the selected program is PROGRAM 1, PROGRAM 3 or PROGRAM 5, then the traces you see on the display will not automatically be saved on the memory card.

WARNING!

Avoid moving TROMINO® during the acquisition since this could damage the sensors. Stop the acquisition first by keeping the 2 central keys pressed at the same time and for a few seconds, then move TROMINO®.

To stop the recording also see p. 111.